**U.S. Department of Justice**

*United States Attorney*
*Eastern District of New York*

AES:DCP/JPL/JPM/GMM
F. #2012R01716

*271 Cadman Plaza East*
*Brooklyn, New York 11201*

November 22, 2019

By ECF and Hand Delivery

The Honorable Nicholas G. Garaufis
United States District Judge
Eastern District of New York
225 Cadman Plaza East
Brooklyn, New York 11201

Re: United States v. OZ Africa Management GP, LLC
Criminal Docket No. 16-515 (NGG)

Dear Judge Garaufis:

The government respectfully submits this letter in response to the Court's Memorandum and Order dated August 29, 2019 (ECF Docket No. 51, hereinafter, the "Order"). The Court has ordered the parties to submit supplemental briefing addressing three issues: (1) the value of the Kalukundi[1] mining rights; (2) how the Court should apportion liability for the payment of restitution; and (3) whether calculating restitution is too complex under the Mandatory Victims Restitution Act, 18 U.S.C. § 3663A (the "MVRA"). (Order at 20). As discussed below, the second and third issues are straightforward. The Court should order the defendant to pay the former shareholders of Africo (the "Claimants") the full

[1] The Kalukundi mine is located within the Kolwezi District of the former Katanga Province. A village is situated close to the Kalukundi deposit. No large-scale mining has been performed to date at Kalukundi, but the area has been subjected to artisanal mining. Kalukundi falls under a exploitation and mining license known as PE 591 issued by the Democratic Republic of the Congo ("DRC") on October 11, 2001 for a term of 20 years (the "Permit"). The Permit is renewable for two 15-year terms, and the government is not aware of information suggesting that the license holder would be unable to renew the Permit. The Permit was held by a DRC-based company called Swanmines SPRL ("Swanmines"). As of June 2006, Swanmines was owned by the H&J Swanepoel Famille Trust Sprl ("H&J") (75%) and state mining company Gécamines (25%), which receives a free carry on the project. In June 2006, Africo Resources Limited ("Africo") held a 48% interest in H&J with an option to increase this holding to 100%. By 2007, Africo controlled 100% of H&J, giving it an effective 75% ownership stake in the Permit.

amount of the restitution award and the process of calculating restitution is not overly complex. With respect to the value of the mining rights, the government respectfully submits that the Court should either hold Och-Ziff to its 2008 out-of-court valuation of at least $150 million, or else adopt the government's discounted cash flow valuation of $188.7 million. The defendant should not be entitled to disown or explain away its prior valuation – which it conducted outside the litigation context and around the time of its criminal activity – simply because it is in the defendant's financial interest to do so today.

## I. Value of the Kalukundi Mining Rights

The government has identified three methods for determining the value of the Kalukundi mining rights.[2]

The first method, which the government respectfully submits is the most reliable, uses historical valuations of the mining rights, and in particular the defendant's own assessment of their value during the offense conduct. The most important prior valuation was performed in July 2008, when the defendant's parent company, Och-Ziff Capital Management Group LLC ("Och-Ziff"), did its own valuation of the mining rights and determined that they were worth at least $150 million. Principles of fairness and common sense dictate that the defendant – which harmed the victims in this case – should be held to its own valuation of the stolen mining rights, especially as that valuation was, as detailed herein, in line with other estimates prepared at the time and outside of the present litigation context. The government respectfully submits that Och-Ziff's own valuation of at least $150 million is both a reasonable approximation of the value of the mining rights and the most appropriate valuation to use in this case.

Second, the mining rights can be fairly valued using the discounted cash flow ("DCF") method. The Claimants' expert, Dr. Neil Rigby, has provided an expert report that uses the DCF method to value the mining rights in excess of $500 million. In evaluating Dr. Rigby's report, the government has relied on the expertise of its own independent consultant at Stout Risius Ross, LLC ("Stout"). At this time, the government's view is that, although his methodology is sound, Dr. Rigby has made certain assumptions that result in an inflated DCF valuation. With the assistance of Stout, the government has incorporated what it submits are more reasonable assumptions into Dr. Rigby's model, which results in a value of

[2] This memorandum addresses valuations that are for the mining rights to the entire Kalukundi mine, and not the specific portion of those rights that was held by the Claimants during the relevant time period before the mining rights were stolen. The government is not in the position to determine what percentage of the overall Kalukundi mining rights was stolen from the individual Claimants. Additional calculations would be necessary to ascribe values of the mining rights described in this memorandum to the appropriate restitution amount for individual Claimants.

$188.7 million. Notably, the $188.7 million value is within range of the valuation of at least $150 million that Och-Ziff calculated prior to the litigation in this case.

Third, the Court may use a share price analysis to value the mining rights. The government understands that this is the approach favored by the defendant and, as expected, it results in a value far lower than the amount of Och-Ziff's 2008 valuation. The government is unaware of any case in which the value of a stolen corporate asset has been measured by a decrease in share price, and the government respectfully submits that it is not necessary to do so here, particularly where there are other reliable valuation methodologies. If the Court, however, were to decide not to use Och-Ziff's 2008 valuation or the government's (or the Claimants') proposed DCF valuation, the share price analysis could provide a relatively straightforward calculation of the value of the mining rights.

A. Historical Valuations

The government identified several prior valuations of the Kalukundi mine, which were conducted from 2006 to 2008, long before the present litigation. Och-Ziff's 2008 valuation of at least **$150 million** is the best approximation of the value of the mining rights affected by the offense conduct. Not only did Och-Ziff have many of the prior valuations available at the time when it conducted its own analysis, but it had also assumed control of Kalukundi, which gave Och-Ziff and its partners direct access to the resource. No party was better positioned to value the project than the defendant. Moreover, it is only fair that the defendant, whose conduct harmed the victims in this case, should be held to their own prior valuation of the very property they stole from the victims.

The following is a list of valuations identified to date by the government. The net present value figures reported were as of the date of the respective reports, and they have not been updated to account for inflation.

1. 2006 MDM and RSG Reports—$162.9 Million

In May 2006, MDM Engineering completed a feasibility study on Kalukundi. The study was carried out on behalf of Swanmines and in conjunction with RSG Global Pty Ltd. ("RSG"). In June 2006, RSG issued a technical report that concluded, with the MDM report, that Kalukundi had a net present value of **$162.9 million** (Gecamines' share was listed as $60.2 million). A Material Change Report filed by Rubicon Minerals Corporation (a principal holder of Africo at the time) reporting these valuations is attached as Exhibit 1. The RSG report is attached as Exhibit 2. The June 2006 RSG report followed guidelines in Canadian law concerning the reporting and displaying of information related to mineral properties owned by publicly traded Canadian companies.

2. 2007 Renaissance Capital Equity Research Report—$123.07 Million

In August 2007, the London office of Renaissance Capital, a Russian investment bank, issued an equity research report on Central African miners and developers that included an analysis of Kalukundi. An extract of the Renaissance report pertinent to

Africo is attached as Exhibit 3. The report appeared to rely on the data from the June 2006 RSG report (discussed above). The report contained an estimate of Africo share value based on the value of the 75% ownership interest in the Kalukundi project. The value of the entire project was **$123.07 million**.[3] (Ex. 3, at 6).

3. March 2008 Africo Audit Report—$162.9 Million

In March 2008, PriceWaterhouseCoopers ("PWC") prepared a report for Africo addressed to the Audit Committee of Africo's Board of Directors. The report is attached as Exhibit 4. According to the report, based on PWC's discussions with Africo's management and its review of press releases at the time, PWC endorsed a continued carrying value of the Kalukundi project of **$162.9 million**. This again adopted the 2006 MDM Engineering and RSG reports while noting that copper and cobalt prices had increased since 2006. During a 2008 Central African Copperbelt Conference, an Africo presentation reported the same **$162.9 million** figure. A PowerPoint presentation containing this valuation on page 21 is attached as Exhibit 5.

4. July 2008 RSG Technical Report—$149.8 Million

In July 2008, RSG issued a revised report. The revised 2008 technical report is attached as Exhibit 6. The report set forth a net present value of $**149.8 million**. (Ex. 6, at 119 (Document Page 111)).

5. July 2008 Och-Ziff Investment Memorandum—$150 Million

A July 2008 investment memorandum states that Och-Ziff personnel "performed a DCF valuation on Africo using the 2006 Feasibility study which was adjusted where appropriate" and that the value of the Kalukundi mining rights at the start of the development of the mine was **$150 million**. The report is attached as Exhibit 7. Between April and August 2008, Och-Ziff personnel prepared various investment memoranda concerning the Camrose investment, which would be used to finance a new share issuance by Africo, a dilution of the existing shareholders, and an effective takeover of control by Och-Ziff and its partners. As the Court is aware, this conduct is at the very heart of the defendant's crime in this case. Och-Ziff's July 2008 memo directly addresses the value of

[3] Based on the government's review of the figures in the equity research report, there appears to have been a miscalculation by Renaissance Capital, leading to a reported net present value of $107.9 million. In the sensitivities table contained below the valuation table, the value is provided as $92.3 million at a 10% discount rate. The government grossed up the $92.3 million figure representing a 75% interest in the asset, which resulted in an implied valuation of $123.07 million.

Africo: "Using a 30% discount rate to capture revisions in the FS study etc, a pre new money valuation of $150m is given today."[4] (Ex. 7, at 9).

6. October 2008 Venmyn Report—$143 Million

In October 2008, mining consultancy firm Venmyn issued a resource statement and mineral asset valuation for the Mashitu project, which is an adjacent project to Kalukundi. This report is attached as Exhibit 8. According to the Venmyn report, "the most similar asset to Mashitu is Africo's Kalukundi mine, which is intimately related to Mishitu [sic] by virtue of its geography location." (Ex. 8, at 7). Venymn stated that there were similarities between the projects and noted, "[w]hilst it is always difficult to definitively compare mineral assets, using the Comparable Transaction Valuation method, in Venmyn's opinion, the valuation of Mashitu compared to Kalukundi does reflect a similar relative value." (Ex. 8, at 7). Venmyn ascribed a value of **$143 million** to the Kalukundi project.

7. November 2008 SRK Consulting Report—$102.6 Million

In late 2008, Africo (now controlled by Camrose) commissioned SRK Consulting (South Africa) to prepare a new valuation report for the Kalukundi and Mashitu projects. This report is attached as Exhibit 9. The report was based on the 2006 MDM Engineering feasibility study. It concluded that the recommended fair market value for Kalukundi was **$102.6 million**. It also provided a recommended fair market value for Mashitu of $59.1 million. (Ex. 9, at 3).

B. Discounted Cash Flow Method

Although the government believes that using the defendant's own $150 million valuation of the Kalukundi mining rights is most appropriate, it is also possible to reasonably approximate the value of the rights through the DCF method. The DCF method, a form of the Income Approach utilized to determine the fair market value of an asset, discounts the projected future free cash flows using an appropriate discount rate. Inherently, this method calculates future cash flows based on estimates of potential revenues and costs while considering the risks associated with obtaining those cash flows. While the DCF method may provide a means to assess the potential value of the Kalukundi mining rights, it is also limited by the reliability and accuracy of the various inputs utilized to estimate the revenues, costs, risks and resulting cash flows. Adjustments to certain inputs can have a

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[4] Indeed, it is likely that the $150 million valuation is not the only value Och-Ziff ascribed to Africo in that memo. The memo also states that "the standalone attributable value for Africo (on a pre-new-money basis) at the start of development (which we estimate to be in 12 months time) amounts to $194m." (Ex. 7, at 9). As it is unclear which value Och-Ziff was relying on, the government is proceeding as though it applied the lower value of $150 million, although it certainly considered higher values.

significant effect on the concluded value. Further, because the Kalukundi mine remains undeveloped, no historical results exist on which to support estimates of future cash flows.[5]

There are five primary inputs identified that impact the value of Kalukundi under the DCF method. Those inputs are (1) the price at which copper and cobalt can be sold ("Commodity Prices"); (2) royalties, fees and taxes to be paid ("Royalty Rates and Taxes"); (3) the discount rate or risk of the project ("Discount Rate"); (4) annual production rates and total ore processed ("Processing Volume"); and (5) capital costs ("Capital Costs"). A modification of any of these inputs will impact the value. As set forth above, the prior valuations – some of which were themselves based on the DCF method, including the defendant's own July 2008 valuation of at least $150 million – did not suffer from the inevitable bias of parties advocating in the context of litigation. That alone makes the prior valuations more reliable.

The government has, however, identified a number of inputs that it believes are reasonable for the DCF method regarding (1) Commodity Prices, (2) Royalty Rate and Taxes, (3) Discount Rate and (5) Capital Costs. With respect to (4) Processing Volume, the government believes that the analysis of Dr. Rigby, a mining expert, should be adopted, although as a basis of comparison for the Court, Stout has also calculated the value of the mine using the 2006 Processing Volume. With respect to (3) Discount Rate, the government, with Stout's assistance, engaged in an independent calculation of the Discount Rate and believes that the appropriate Discount Rate to apply is at least 20.5%. Further analysis of each of the factors, including the appropriate Discount Rate, is set forth below.

1. Information Reviewed

In order to assess the DCF method, the government has taken several steps to assist in its analysis. First, it has met with the Claimants' mining expert, Dr. Rigby, to discuss his report and followed up with Claimants' counsel to ask additional questions related to Dr. Rigby's report. Second, the government has met with one of the experts engaged by Och-Ziff, Dr. Daniel Flores, and asked Och-Ziff's counsel follow-up questions. Finally, the government has retained the services of Michael Petron, a Managing Director at Stout, an independent global advisory firm specializing in Investment Banking, Valuation Advisory, Dispute Consulting, and Management Consulting. Mr. Petron and Stout have assisted in evaluating the competing valuation approaches and developed various scenarios to establish a range of values using the DCF method.

[5] It is primarily for this reason that the government has not provided analysis of the value of the mining rights for the Kalukundi mine as if it were developed. As the Court noted, the Claimants are not "entitled to a restitution award based on the full projected value of the Kalukundi Mine as if it had been developed." (Order at 20, n.12). The Kalukundi mine has never been developed and assessing the value as a working mine is highly speculative and ignores the practical realities.

2. DCF Inputs

As set forth above, in evaluating the DCF method, the parties have distilled the relevant inputs into five main categories: Commodity Prices, Royalty Rates and Taxes, Discount Rate, Processing Volume, and Capital Costs. Of course, there are several other relevant inputs that will impact the value ascribed to the mining rights by the DCF method, such as certain fixed costs, direct costs, and depreciation and amortization, among others. But in the absence of other information, the government has applied those other inputs as presented in Dr. Rigby's report. In other words, the government adopted the DCF model as created by Dr. Rigby and verified the accuracy of the formulas and financial modeling contained therein while assessing and adjusting the five relevant inputs described previously.

a. Commodity Prices

One of the critical drivers underlying the DCF method is the price of the commodities, copper and cobalt, in the Kalukundi mine. The Kalukundi mine is predominantly a copper mine, but it does have significant cobalt resources.[6]

The government respectfully submits that the application of a consensus forward estimate of copper and cobalt prices should be used to complete the analysis. Consensus pricing is a combination of pricing estimates from a variety of sources as to what the commodity prices will be at a point (or points) in the future. The government submits that consensus pricing is the appropriate methodology because, just like the DCF analysis, it incorporates future pricing metrics to determine future cash flows, as opposed to relying on a static, historical price. Commodity pricing estimates are usually available from a variety of sources and are primarily obtained through subscription services. In his most recent submission to the government, for his analysis of the undeveloped mine, Dr. Rigby utilized consensus prices of $2.84 per pound for copper and $20.57 per pound for cobalt, which he holds constant for each subsequent year in his DCF model.[7] The consensus prices Dr. Rigby utilized signify a 12% increase in the price of copper and a 28% increase in the price of cobalt, as compared to the spot prices presented by Dr. Rigby in his updated undeveloped model. The government also understands that Dr. Flores also considered consensus pricing forecasts from the World Bank for copper and cobalt. As part of the government's DCF analysis, Stout applied a consensus pricing for copper and cobalt from Capital IQ, a generally-accepted resource in the financial community. Those prices ranged from $3.09 to

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[6] As a point of reference, Dr. Rigby's November 2017 report calculated that the Kalukundi mine had approximately seven times as much copper resources as cobalt. (See Dkt. No. 26-6: Expert Report of Dr. Neal Rigby dated Nov. 21, 2017, at p. 24).

[7] In his most recent submission, Dr. Rigby utilized both spot pricing and consensus pricing. It does not appear that Dr. Rigby utilized consensus pricing in his November 2017 valuation.

$3.58 per pound for copper and $20.83 to $25.33 per pound for cobalt.[8] A full list of the consensus commodity pricing used by Stout is attached hereto as Exhibit 11.

b. Royalties / Taxes

The DRC applies taxes and extracts royalties from mining projects. These are often changing; indeed, since the initial submissions in this matter, the DRC has incorporated a series of changes to the royalties and taxes charged to mining projects in the country. For example, the government understands that in March 2018, the DRC enacted a new mining code ("2018 DRC Mining Code") that increased the government royalty on copper and cobalt to 3.5% and 10.0%, respectively; introduced a 0.3% of gross revenue cost to be paid for rehabilitation of communities affected by mining operations; revised the environmental remediation provision to be 0.5% of gross revenues; and introduced a special tax on excess profits. Further, the government understands that excess profits is determined when the prices of materials or commodities increases exceptionally, above 25% compared to those included in the bankable feasibility study of the project.

In determining the reasonable value of the Kalukundi mine, Stout adjusted Dr. Rigby's original DCF model to: (1) include "Gov't NSR Royalty" costs of 3.5% for copper and 10.0% for cobalt; (2) include a "Communities Provision" cost calculated as 0.3% of gross revenue; (3) amend the "Rehabilitation Allowance" to be calculated as 0.5% of gross revenue; and (4) utilize the copper and cobalt prices in the 2006 Bank Feasibility Study as the basis to determine any special tax on excess profits.

c. Discount Rate

Perhaps the most contentious factor in the DCF method is the discount rate. After discussions with the Claimants and the defendant, it is clear that both parties will advance fundamentally different discount rates for the project. In his analysis, Dr. Rigby utilized a 12% discount rate, which he believes is an accurate, if not conservative, discount rate to use for several reasons. The government understands that Dr. Flores believes the 12% discount rate is too low.

The government is aware that there are a number of reasons why a 12% discount rate may be appropriate. There are other mining projects where a discount rate at or lower than 12% was applied and the 12% discount rate has been applied but in other valuations of the Kalukundi mine. And the government acknowledges that Dr. Rigby has four decades of expertise in the mining industry. Nevertheless, Stout is familiar with the application of discount rates and believes that a discount rate in excess of 12% is too low, particularly for an undeveloped commodities mine in a high-risk country. At the

[8] The government notes that the consensus prices for copper and cobalt by Capital IQ are higher than other sources, such as the World Bank, the source identified by Dr. Flores, and Consensus Economics' Energy and Metals Forecast, the source utilized by Dr. Rigby.

government's request, Stout developed a discount rate that reflects the relative risk of the investment and the time value of money by estimating the weighted average cost of capital ("WACC"). Stout estimated the appropriate discount rate to be at least 20.5%.[9] This rate is consistent with discount rates applied to other mines in similar locations. And most importantly, this is the appropriate rate to assess fair market value as opposed to investment value. Investment value refers to the value to a specific investor, based on that investor's requirements, financing, tax rate, etc. Fair market value is defined as the price at which property would change hands between a willing buyer and a willing seller, when the former is not under any compulsion to buy and the latter is not under any compulsion to sell, both parties having reasonable knowledge of the relevant facts. The 12% applied by Dr. Rigby is a discount rate used for purposes of determining whether an investment will be profitable and not for purposes of assessing the fair market value. Accordingly, the government believes that at least 20.5% is a fair and reasonable discount rate for purposes of determining the fair market value of the Kalukundi project.

d. Processing Volume

One of the primary areas of uncertainty is the amount of recoverable ore from an operating Kalukundi mine. Unfortunately, due to severe limitations on the available technical information, the government submits that there are only two options for determining the production plan that will yield the amount of mineable ore from the Kalukundi mine. The first option is that set forth in the 2006 RSG Technical Report, which is the only actual, verified reserve estimate for the mine, and called for a processing plant design that yielded 7.8 million metric tons of mineable ore using with a capacity of 800,000 metric tons per year. The second option comes from Dr. Rigby's analysis of a 2013 AMEC E&C Services Inc. report, prepared for by Africo, in which he estimates approximately 16 million metric tons of mineable ore with a plant design of 1.25 million metric tons per year. Dr. Rigby recommends the latter processing figures.

Neither the government nor Stout possess the requisite expertise to opine on the reasonableness of Dr. Rigby's estimate of copper and cobalt resources or the reasonableness of the estimated processing volume. As such, Stout endeavored to provide a sensitivity analysis utilizing both estimates (i.e., 7.8 million metric tons of mineable ore using a processing plant design with a capacity of 800,000 metric tons per year and 16 million metric tons of mineable ore using a processing plant design with a capacity of 1.25 million metric tons per year). The government and its expert are limited in providing additional sensitivities because of a lack of visibility into Dr. Rigby's pit optimization

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[9] The required return on equity ascribes an even higher discount rate of at least 26%, which Stout believes would also be an appropriate discount rate to employ assuming the project was financed entirely by equity as opposed to a combination of debt and equity. As set forth below in Exhibit 10, attached hereto, applying a 25% discount rate, would further reduce the value of the mining rights. However, because the rate ascribed by the WACC is also accurate and more conservative, the government has employed that rate.

analyses, which relied on proprietary software programs and formed the optimized pit mining plan. In other words, Stout cannot adjust the specific mineable ore and processing volume inputs of Dr. Rigby's DCF model while maintaining the mechanical integrity and reliability of the model. The government believes that Dr. Rigby's estimate is based on his expertise and analysis of technical data, and is conservative in that he only quantifies a small percentage of the inferred and measured resources into mineable ore. Accordingly, the government primarily relies on Dr. Rigby's view of the processing volume in reaching its estimate of value.

e. Capital Costs

The final primary input relates to Capital Costs. Dr. Rigby's report appropriately included costs associated with the initial capital, sustaining capital, and post closure/reclamation capital necessary to operate the Kalukundi mine. Dr. Rigby based these costs on the 2006 Bankable Feasibility Study and escalated those costs to 2017 dollars utilizing the CostMine MCS Index. The 2006 Bankable Feasibility Study contemplated a plant processing 800,000 metric tons per year, while Dr. Rigby's report called for a plant processing 16 million metric tons at 1.25 million metric tons per year. In other words, Dr. Rigby may have understated the Capital Costs, which resulted in an overstatement of his concluded value.

Dr. Rigby included Capital Costs totaling $448.4 million, which consisted of initial capital of $327 million, sustaining capital of $98 million, and post closure/reclamation capital of $23 million. To adjust Dr. Rigby's Capital Costs to be consistent with processing 1.25 million metric tons per year, Stout relied on the 2008 MDM Engineering FEED CBE RECOST Kalukundi Copper Cobalt Project, which indicated that the capital estimation for a 1.25 million metric ton per year production would be 16% greater than the cost of a 800,000 metric ton per year production. Accordingly, the government's expert believes that a more reasonable amount of capital for a plant processing 1.25 million metric tons per year is $539 million, which consisted of initial capital of $387 million, sustaining capital of $116 million, and post closure/reclamation capital of $36 million. Additionally, adjusting Dr. Rigby's Capital Costs to 2019 dollars for a plant processing 800,000 metric tons per year is $433.8 million, which consists of initial capital of $334 million, sustaining capital of $83 million, and post closure/reclamation capital of $17 million.[10]

[10] The government's sensitivity analysis incorporates the Capital Costs based on the contemplated processing volume (i.e., $433.8 million for the 800,000 metric tons per year and $539 million for the 1.25 million metric tons per year). Additionally, the life of the mine was reduced when utilizing the 800,000 metric tons per year processing volume, which explains the minor decrease in Capital Costs between Dr. Rigby's 2017 report and the government's adjusted Capital Costs for 2019.

3. Conclusion—$188.7 million

The DCF method performed using the assumptions identified above resulted in a present-day valuation for the Kalukundi Project of **$188.7 million**. That figure, which is near the value of Och-Ziff's own internal calculation of at least $150 million from its 2008 investment memorandum, is a reasonable approximation of the mining rights. Stout's evaluation of the value of Kalukundi under the 2006 Processing Volume and the updated 2013 Processing Volume used by Dr. Rigby is summarized in the following table:

| Value of Kalukundi Mine | |
|---|---|
| **Production Plan** | **Amount (US$ 000s)** |
| 1.25M Metric Tons/Yr. (16M Total Metric Tons) | $ 188,690 |
| 800k Metric Tons/Yr. (8M Total Metric Tons) | $ 3,497 |

Finally, for illustrative purposes and for the Court's convenience, Stout has also prepared sensitivity analysis setting forth different valuations that result from changes in some of the key inputs set forth above, including Commodity Prices and Discount Rate for each of the Processing Volumes. That analysis is set forth in the attached Exhibit 10.

C. Share Price Analysis

In the Order, the Court held that the Claimants, as former shareholders of Africo who held attenuated interests in Africo's intangible rights to develop the Kalukundi mine stolen by the defendant, qualified as victims pursuant to the MVRA. (Order at 12-14). The government understands that the defendant will submit that the calculation of restitution in this case should be measured by the deflation in the value of the Claimants' publicly-traded Africo shares that occurred following the April 2007 revelation and public disclosure of the fact that Africo's mining rights were expropriated. As discussed below, if the Court were to reject both of the methods discussed above, the government respectfully requests that the Court consider whether a share price analysis may provide an effective way of measuring and apportioning restitution in this case.

1. Relevant Law to Share Price Analysis

The Supreme Court has recognized that, in an efficient capital market, the publication of material information impacts a company's stock price. Basic Inc. v. Levinson, 485 U.S. 224, 246 n.24 (1988). This conclusion was premised on the "fraud on the market theory," the "hypothesis that, in an open and developed securities market, the price of a company's stock is determined by the available material information regarding the company

and its business." Id. at 241. In both criminal and civil securities fraud cases, many courts have recognized that a company's opportunities are reflected in its share price.[11]

Relying on these market principles, in criminal and civil securities fraud cases alike, courts have evaluated the decline of a company's stock price in response to the market's absorption of new information concerning fraudulent conduct as a means of quantifying the loss caused to investors by the fraud. Indeed, the United States Sentencing Guidelines (the "Guidelines") contains a provision that suggests a method for calculating damages to investors who held stock impacted by fraudulent manipulation. The Guidelines' "modified rescissory method" ("MRM") provides:

> In a case involving the fraudulent inflation or deflation in the value of a publicly traded security or commodity, the court in determining loss may use any method that is appropriate and practicable under the circumstances. One such method the court may consider is a method under which the actual loss attributable to the change in value of the security or commodity is the amount determined by—
>
> (I) calculating the difference between the average price of the security or commodity during the period that the fraud occurred and the average price of the security or commodity during the 90-day period after the fraud was disclosed to the market, and
>
> (II) multiplying the difference in average price by the number of shares outstanding.

Guidelines § 2B1.1, cmt. n.3(F)(ix) (2019). In short, application of MRM principles results in a defendant "'compensating the injured party for any difference between the price that the injured party paid for the security and its trading price following disclosure of the fraud.'" United States v. Grabske, 260 F. Supp. 2d 866, 872 (N.D. Cal. 2002) (Breyer, J.) (quoting In re Mego Financial Corporation Securities Litigation, 213 F.3d 454, 460 (9th Cir. 2000)).

[11] See Coburn v. Evercore Trust Co., N.A., 844 F.3d 965, 969 (D.C. Cir. 2016) ("according to the efficient capital market theory, a security price in an efficient market represents that market's most accurate estimate of the value of a particular security based on its riskiness and the future net income flows that investors holding that security are likely to receive") (citation omitted); Cent. Nat'l Bank of Mattoon v. U.S. Dep't of Treasury, 912 F.2d 897, 904 (7th Cir. 1990) (noting that in an efficient market, "[a] company's prospects are impounded in the market price of its shares"); United States v. Gushlak, 2012 WL 1379627, at *9, n.16 (E.D.N.Y. Apr. 12, 2012) (Garaufis, J.) ("Equity prices are a function of expected future earnings (citing Brealey, Myers, Allen, Principles of Corporate Finance, at 88 (9th ed. 2008)) (emphasis in original).

Consistent with the foundational principle that, pursuant to the MVRA, "restitution may be awarded only in the amount of losses directly and proximately caused by the defendant's conduct," United States v. Gushlak, 728 F.3d 184, 194-95 (2d Cir. 2013) ("Gushlak II"), MRM is further refined by the causal limitation that the award of restitution should be limited to the approximation of damages caused by the fraud and not attributable to independent market forces. See Guidelines § 2B1.1, cmt. n.3(F)(ix) (2019) ("In determining whether the amount so determined is a reasonable estimate of the actual loss attributable to the change in value of the security or commodity, the court may consider, among other factors, the extent to which the amount so determined includes significant changes in value not resulting from the offense (e.g., changes caused by external market forces, such as changed economic circumstances, changed investor expectations, and new industry-specific or firm-specific facts, conditions, or events)."); see also United States v. Gushlak, 2012 WL 1379627, at *1 (E.D.N.Y. Apr. 12, 2012) (Garaufis, J.) ("Gushlak I") ("when a stock's price falls after a securities fraud is revealed or terminates, it is necessary to try to control for the other factors that might have contributed to the decline.").

2. Application

A preliminary share price analysis of Africo's stock, utilizing both April 27, 2007 (the date the initial taking of Africo's mining development rights was revealed to the market) and August 13, 2007 (the date Africo's loss in the DRC appellate courts regarding the Akam judgment was announced to the market) as event dates when the impact of the fraud was disclosed to the market,[12] revealed a decrease in share price (averaged over the

[12] For the application of MRM to be viable, it is essential that Africo stock traded in an efficient market, "that is, a market in which there are enough well-informed buyers and sellers, actual and potential, to ensure that prices reflect true values as affected by risk preference as well as by expected earnings and other factors." Cent. Nat. Bank of Mattoon, 912 F.2d at 902. By comparison, "[a]n inefficient market . . . does not incorporate into its price all the available information about the value of a security." Coburn, 844 F.3d at 970 n.1 (citation omitted). "[M]arket efficiency is a matter of degree and accordingly . . . a matter of proof." Halliburton Co. v. Erica P. John Fund, Inc., 573 U.S. 258, 272 (2014) (discussing Basic, 484 U.S. at 246-48). Even "a "thin" market does not preclude the effect of market forces, although it may minimize them." United States v. Rutkoske, 506 F.3d 170, 180 (2d Cir. 2007). Here, there is some reason to believe that Africo stock traded in an efficient market. First, Africo stock traded on the Toronto Stock Exchange, a well-established major international stock market. Second, Africo had been publicly traded for approximately four months when the loss of the mining rights was revealed to the market. Cf. In re Initial Public Offerings Securities Litigation, 471 F.3d 24, 42 (2d Cir. 2006) (noting that "the market for IPO shares is not efficient."). Finally, based on the government's preliminary analysis noted above, Africo's share price and trading volume appeared to materially and quickly react to new public information including the fact that Africo's Kalukundi mining rights had been transferred to Akam and that subsequent efforts to recover them through litigation in the DRC failed. See id. at 43 (observing that a slow market

subsequent 90-day period) of approximately 33.4% and 25.4%, respectively, without controlling for independent market forces. Notably, there also appears to be a significant comparative increase in Africo share trading volume on April 27, 2007, which suggests that the market was particularly reactive to the release of the information that Africo lost its development rights to Akam. Finally, this preliminary analysis yielded a combined loss as to all Africo shares held immediately prior to the disclosure of between approximately **$40 million** and **$45 million**.

However, while application of MRM to this case would seemingly reduce speculation and subjective factors regarding the value of the mining rights vis-à-vis attempting to value the Kalukundi mine itself, the government is not aware of a single case where MRM or a similar share price analysis was utilized to calculate damages in a case such as this, specifically, where property damage was indirectly caused to shareholders by virtue of theft, damage or loss of an underlying corporate asset. Indeed, each case where such an approach was used (that the government is aware of) generally involved criminal or civil securities fraud – material misstatements or omissions, or similar market manipulation schemes. Nevertheless, because sentencing courts have broad discretion in determining how to value loss or damage to property for purposes of the MVRA, the government believes that the Court is permitted to apply or accept a share price analysis here should it wish to do so.[13]

II. The Defendant is Fully Liable for the Claimants' Losses

The Court also ordered the parties to brief whether it should either apportion liability among the coconspirators or make the defendant jointly and severally liable for all of Claimants' losses under 18 U.S.C. § 3664(h) of MVRA. (Order at 20). As discussed below, the Court should order the defendant to pay restitution for the full amount of the Claimants' losses.

Section 3664(f)(1) of Title 18 provides that "the court shall order restitution to each victim in the full amount of each victim's losses as determined by the court and without

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reaction to allegedly widespread knowledge of fraud is "the very antithesis of an efficient market"); United States v. Hatfield, 2014 WL 7271616, at *14 (E.D.N.Y. Dec. 18, 2014) (Seybert, J.) (noting that an increase in stock trading volume is likely a good indicator that "the market fully digested and responded to [an] announcement.").

[13] The government recognizes that in its Order, the Court rejected the defendant's argument that Claimants are not victims because, as shareholders, their interests in the Kalukundi mining rights were too attenuated. In the government's view, the Order does not, however, appear to specifically preclude the use of Africo share prices as a metric for calculating the Claimants' loss for purposes of restitution. Indeed, if the Court accepts share price analysis as a viable (or potentially viable) method of calculating restitution, such an analysis could theoretically value the loss of the development rights and how, based on objective trading data, that lost opportunity rippled through various special purpose vehicles to the Claimants themselves.

consideration of the economic circumstances of the defendant." The statute's language is clear that a sentencing court must award restitution for the entirety of a victim's losses. See United States v. Walker, 353 F.3d 130, 131 (2d Cir. 2003) ("Under the MVRA, the court no longer has discretion to deny an award of restitution or to award restitution for anything less than the full amount of the victim's losses.").

The government submits that there is also no basis to apportion the defendant's liability to third parties who contributed to the Claimants' losses. Under 18 U.S.C. § 3664(h), "[i]f the court finds that more than 1 defendant has contributed to the loss of a victim, the court may make each defendant liable for payment of the full amount of restitution or may apportion liability among the defendants to reflect the level of contribution to the victim's loss and economic circumstances of each defendant." Here, there are only two defendants before the Court who contributed to the Claimants' losses. As the Court is aware, an individual pleaded guilty to participating in the same conspiracy in which the defendant participated. Based on the government's current information, that individual is unlikely to meaningfully contribute to the restitution award. If the Court awards restitution, the Court should not exercise its discretion to apportion any of the restitution liability to the individual defendant or reduce the defendant's liability to pay the full amount of any restitution award.[14] See United States v. Nucci, 364 F.3d 419, 422 (2d Cir. 2004) (holding that it "was within the district court's discretion to order that [the defendant], who pleaded guilty to a conspiracy to commit multiple robberies, be held jointly and severally liable for the full amount of the restitution" even when other defendants were required to pay portions of the same loss).

The Court also may not apportion restitution liability to unindicted co-conspirators, such as the DRC Partner or the Former Employee.[15] See United States v. Lucien, 347 F.3d 45, 54 (2d Cir. 2003) (finding "argument that the restitution liability should have been joint and several with [certain unindicted co-conspirators] [was] clearly meritless, as [they] were not charged in the indictment or tried with these defendants and the trial court therefore lacked authority to subject them to a restitution order"); Abdallah v. United States, No. 14-CV-4037 (JFB), 2015 WL 7454182, at *10 (E.D.N.Y. Nov. 24, 2015) ("[J]oint and

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[14] Samuel Mebiame also pled guilty to conspiring with a joint venture owned by Och-Ziff to pay bribes to government officials in Niger, Chad and Guinea, in violation of the Foreign Corrupt Practices Act, Title 15, United States Code, Section 78dd-3(a)(1). (See United States v. Samuel Mebiame, 16-cr-00627 (NGG), Dkt. 19). Mebiame is neither a defendant in the above-captioned case nor a co-conspirator of the defendant, and he did not contribute to the Claimants' losses. Michael Cohen, a former Executive Managing Director at Och-Ziff, also pled guilty to making a false statement, in violation of 18 U.S.C. § 1001. (See United States v. Michael Leslie Cohen, 17-cr-544 (NGG), Dkt. 52). Cohen has never been criminally charged with or convicted of participating in this conspiracy.

[15] The roles of these individuals are described in the government's prior restitution submissions. (See Dkt. No. 39 at 2-3.)

several liability may be imposed only when a single district judge is dealing with multiple defendants in a single case."); see also United States v. Aumais, 656 F.3d 147, 156 (2d Cir. 2011) (stating, in dicta, that Section 3664(h) "implies that joint and several liability may be imposed only when a single district judge is dealing with multiple defendants in a single case (or indictment)"). Accordingly, the Court should order the defendant to pay the full amount of the Claimants' losses in restitution.

## III. The Need for Restitution Outweighs Any Concerns of Complexity

Under 18 U.S.C. § 3663A(c)(3)(B), the MVRA "shall not apply . . . if the court finds, from facts on the record, that . . . determining complex issues of fact related to the cause or amount of the victim's losses would complicate or prolong the sentencing process to a degree that the need to provide restitution to any victim is outweighed by the burden on the sentencing process." As the Second Circuit explained in Gushlak II, this provision:

> plainly does not require the district court to surrender whenever one or more complex issues of causation or loss calculation appear. To the contrary, the statute explicitly contemplates that the district court weigh against the burden of ordering restitution against the victims' interests in receiving restitution. And it commits the balancing to the district court's discretion . . . .

728 F.3d at 192-93. As the Second Circuit recognized, where "the district court was keenly aware of the difficulties of calculating restitution," has long-supervised the case and "the need to compensate victims outweighed challenges of measurement," id. at 193, such discretion will be afforded to the district court.

The foregoing analysis, completed within a few months of the Court's determination that the Claimants qualified as victims, demonstrates that an assessment of the value of the mining rights can reasonably be undertaken and completed. The Court has supervised this matter since its inception in 2016. It has also overseen the related criminal prosecutions and U.S. Securities and Exchange Commission cases, and become highly familiar with Och-Ziff, the various and different schemes at issue, and, most importantly here, the claim for restitution. In the case of a corporate prosecution such as this one, where imprisonment is not a factor and all applicable fines and penalties have been paid, the present proceedings have not unduly burdened the rights of the defendant or delayed other proceedings. Indeed, Och-Ziff (which now operates under a new name) has carried on its business operations and identified no material operational hindrance resulting from these proceedings.

The "complexity" provision of the MVRA, which has not been strongly advanced by any party to date, should not be a shield to restitution in this case. There are many complex cases, but as the foregoing analysis has demonstrated, the question about the value of the mining rights here is not an overly complicated matter. It was undertaken by

numerous mining firms years ago and by multiple experts now, and answers, which the government submits can be read as reasonably consistent, were reached.

At the time that the defendant committed the crime to which it pled guilty, the defendant valued the Kalukundi mining rights no lower than $150 million. Having used this valuation to harm the victims, the defendant surely must accept it now, when the time has come for the defendant to compensate the victims for the defendant's crime.

## IV. Conclusion

As set forth above, the government respectfully submits that the Court should either hold Och-Ziff to its 2008 out-of-court valuation of at least $150 million, or else adopt the government's DCF valuation of $188.7 million.

Respectfully submitted,

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